

**Listing of the Claims:**

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1. (Currently amended) A method of producing a carbon nanotube, comprising:  
preparing a ~~carbon nanotube by~~ one dimensional carbon structure;  
introducing a catalyst substance into a said one dimensional carbon structure;  
making said catalyst substance move in said one dimensional carbon structure; and  
crystallizing a trail region of movement of said catalyst in said one dimensional carbon structure, wherein said step of crystallizing converts said trail region to said a carbon nanotube.
2. (Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said crystallizing said trail region is performed after said one dimensional carbon structure is fixed on a predetermined position of a substrate.
3. (Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said carbon structure is heated when said catalyst substance is moved in said one dimensional carbon structure.
4. (Currently amended) The method of producing a carbon nanotube according to claim 3, wherein at least a part of said catalyst substance is liquefied by heating said one dimensional carbon structure.
5. (Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said one dimensional carbon structure is formed by a vapor-phase deposition method of using a charged particle beam as an excitation source.
6. (Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said one dimensional carbon structure is prepared by a

vapor-phase deposition method of using an aromatic hydrocarbon compound as a precursor material.

7. Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said one dimensional carbon structure is a resist pattern.

8. (Currently amended) The method of producing a carbon nanotube according to claim 1, wherein said one dimensional carbon structure is a linear structure and said catalyst substance is moved along said one dimensional carbon structure.

9. (Previously presented) The method of producing a carbon nanotube according to claim 8, wherein said catalyst substance is a catalyst particle and the diameter of said catalyst particle is 0.5 to 3 times as large as the diameter of said linear structure.

10. (Currently amended) A method of producing a carbon nanotube, comprising:  
preparing a substrate;

forming a one dimensional carbon structure at a position separated from a surface of the substrate;

preparing a carbon nanotube by making a catalyst substance move in the one dimensional carbon structure; and

crystallizing a trail region of movement of said catalyst in said one dimensional carbon structure, wherein said step of crystallizing converts said trail region to said carbon nanotube.

11. (Currently amended) The method of producing a carbon nanotube according to claim 10, wherein said one dimensional carbon structure is heated when said catalyst substance is moved in the carbon structure.

12. (Currently amended) The method of producing a carbon nanotube according to claim 11, wherein at least part of said catalyst substance is liquefied by heating said one dimensional carbon structure.

13. (Currently amended) The method of producing a carbon nanotube according to claim 10, wherein said one dimensional carbon structure is formed by a vapor-phase deposition method of using a charged particle beam as an excitation source.

14. (Currently amended) The method of producing a carbon nanotube according to claim 10, wherein said one dimensional carbon structure is prepared by a vapor-phase deposition method of using an aromatic hydrocarbon compound as a precursor material.

15. (Currently amended) The method of producing a carbon nanotube according to claim 10, wherein said one dimensional carbon structure is a resist pattern.

16. (Currently amended) A method of producing a transistor, comprising forming a carbon nanotube structure by

introducing a catalyst substance into a one dimensional carbon structure; making said catalyst substance move in said one dimensional carbon structure; and

crystallizing a trail region of movement of said catalyst in said one dimensional carbon structure, wherein said step of crystallizing converts said trail region to said carbon nanotube structure;

forming a source electrode and a drain electrode on both ends of said carbon nanotube structure, respectively; and

forming a gate electrode on said carbon nanotube structure.

17. (Currently amended) A method of producing a wiring structure of carbon nanotube, comprising

forming a carbon nanotube structure by

introducing a catalyst substance into a one dimensional carbon structure;

making said catalyst substance move in said one dimensional carbon structure; and

crystallizing a trail region of movement of said catalyst in said one

dimensional carbon structure, wherein said step of crystallizing converts said trail region to a carbon nanotube.

18- 23 (Canceled)

24. (Currently amended) A method of producing a transistor, comprising  
forming a carbon nanotube structure by  
preparing a substrate;  
forming a one dimensional carbon structure at a position separated  
from a surface of said substrate;  
preparing a carbon nanotube by making a catalyst substance move  
in said one dimensional carbon structure; and  
crystallizing a trail region of movement of said catalyst in said one  
dimensional carbon structure, wherein said step of crystallizing  
converts said trail region to said carbon nanotube structure;  
forming a source electrode and a drain electrode on both ends of said  
carbon nanotube structure, respectively; and  
forming a gate electrode on said carbon nanotube structure.

25. (Currently amended) A method of producing a wiring structure of carbon  
nanotube, comprising

forming a carbon nanotube by  
preparing a substrate;  
forming a one dimensional carbon structure at a position separated  
from a surface of said substrate;  
preparing a carbon nanotube by making a catalyst substance move  
in said one dimensional carbon structure; and  
crystallizing a trail region of movement of said catalyst in said  
carbon structure, wherein said step of crystallizing converts said  
trail region to said carbon nanotube.